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## (54) Inflatable catamaran

(57) An inflatable catamaran has two elongate inflatable hulls 16, two pairs of saddles 1 which ride on top of the hulls, a bridge comprising two rigid transverse members 7 extending between respective of the saddles and two rigid longitudinal members extending between respective of the saddles, and longitudinal stiffening batons 8 for each of the hulls to which the saddles are secured in use.

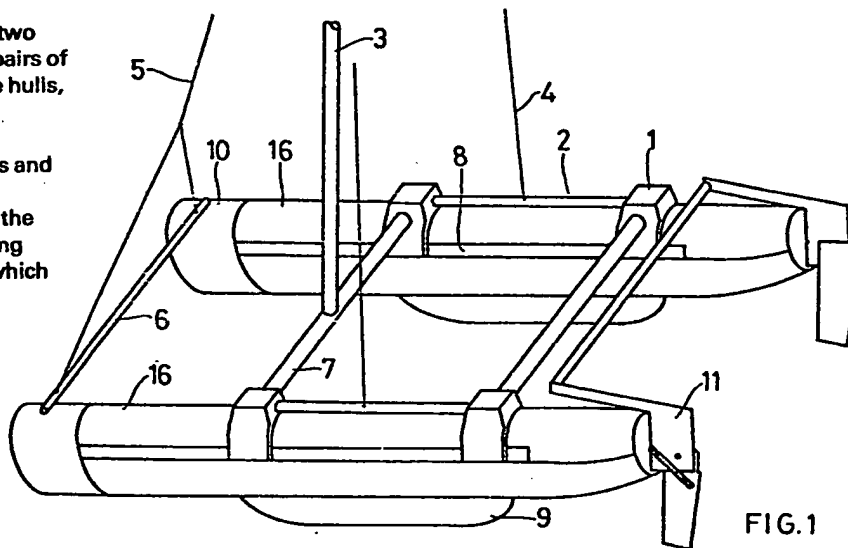
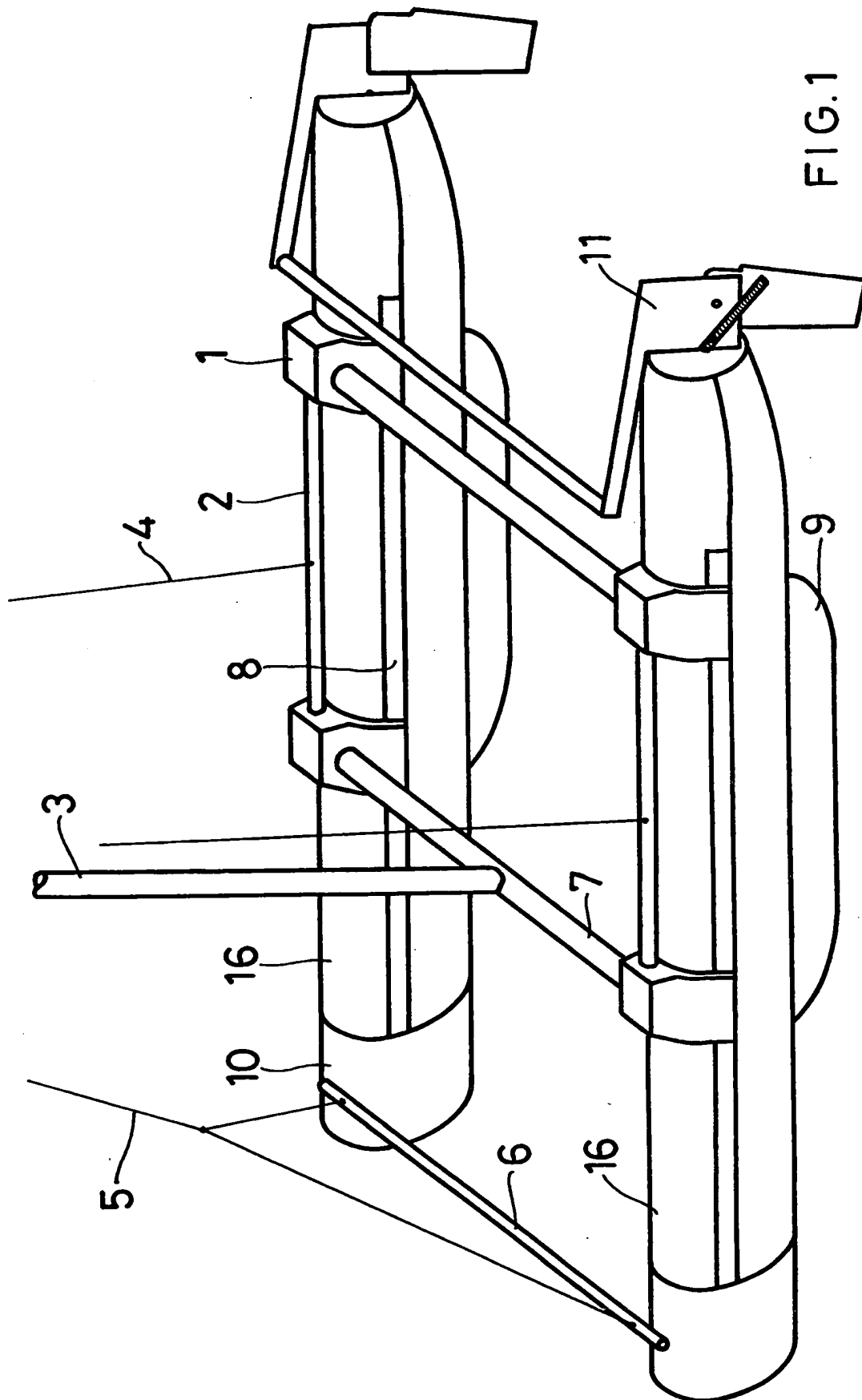


FIG.1



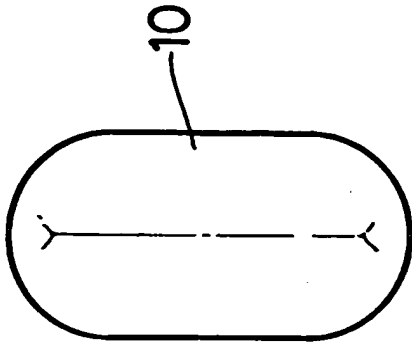
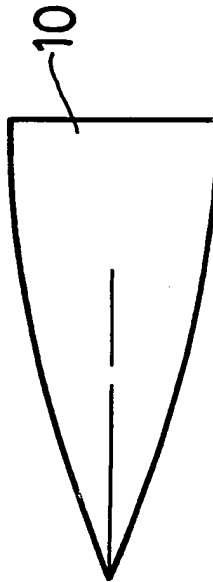
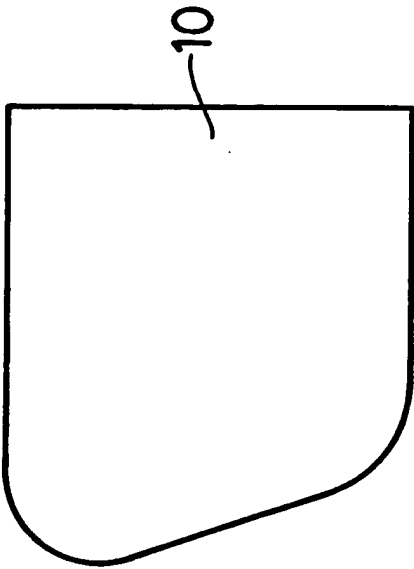


FIG. 2



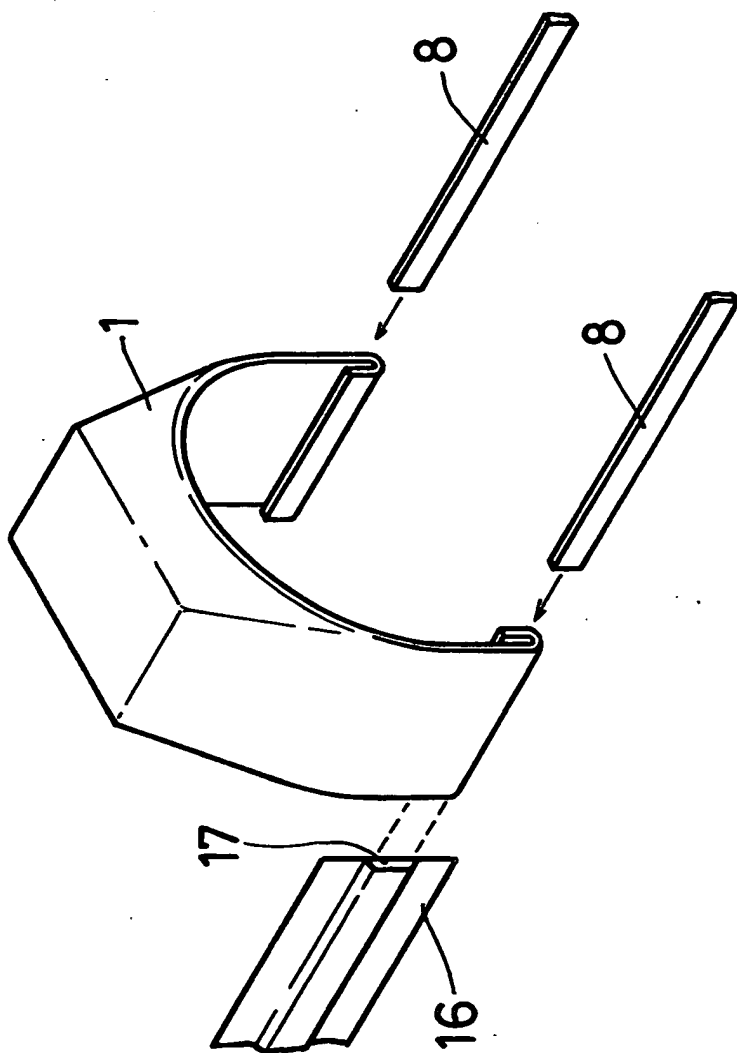


FIG. 3

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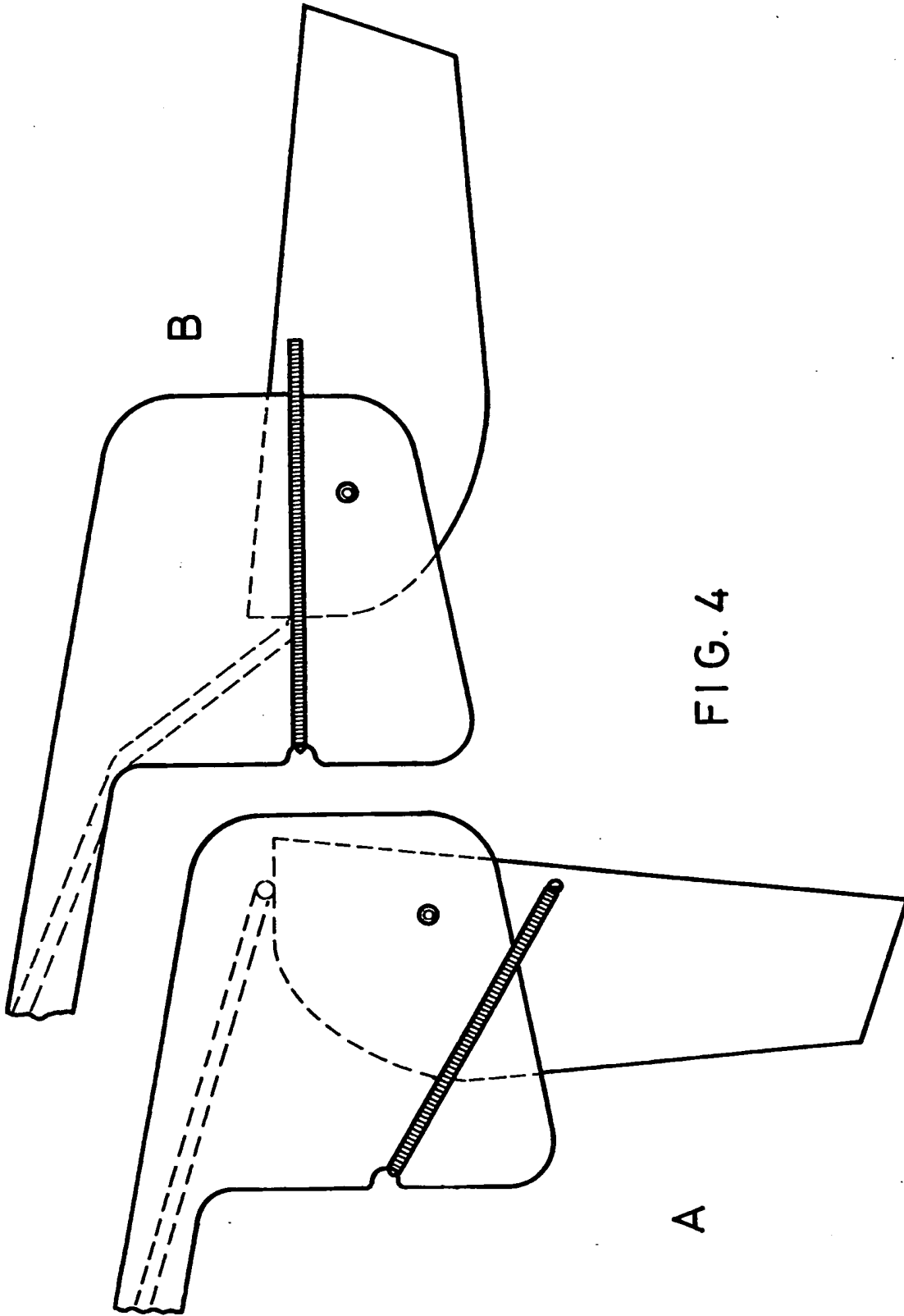


FIG. 4

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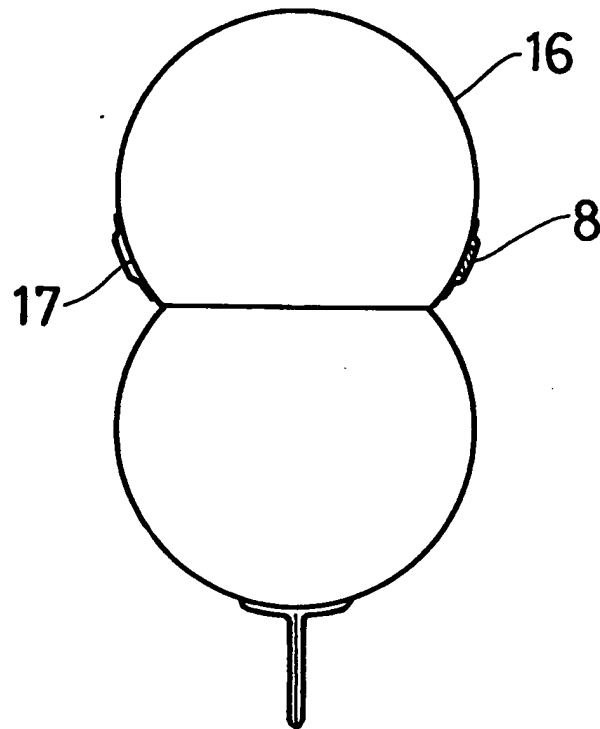


FIG. 5

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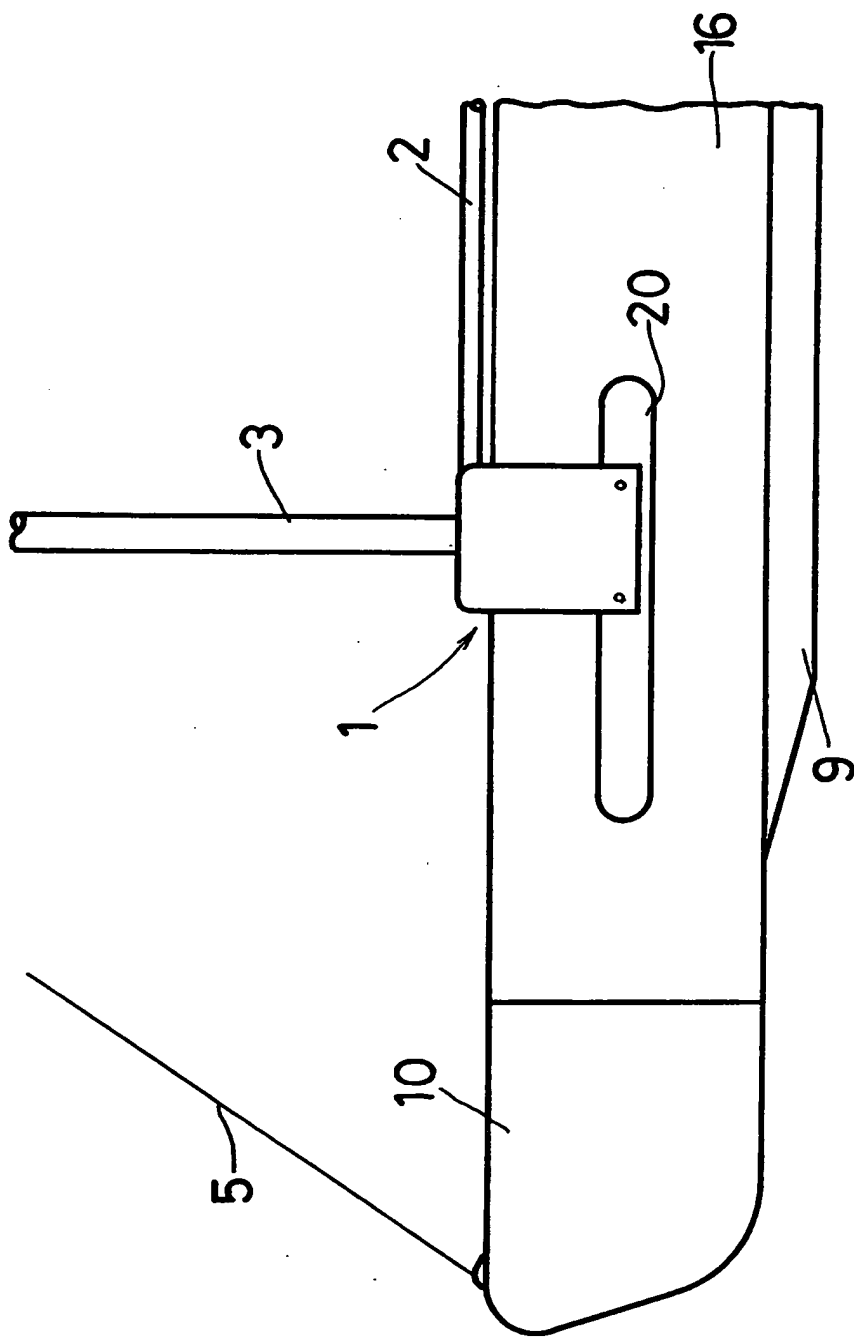


FIG. 6

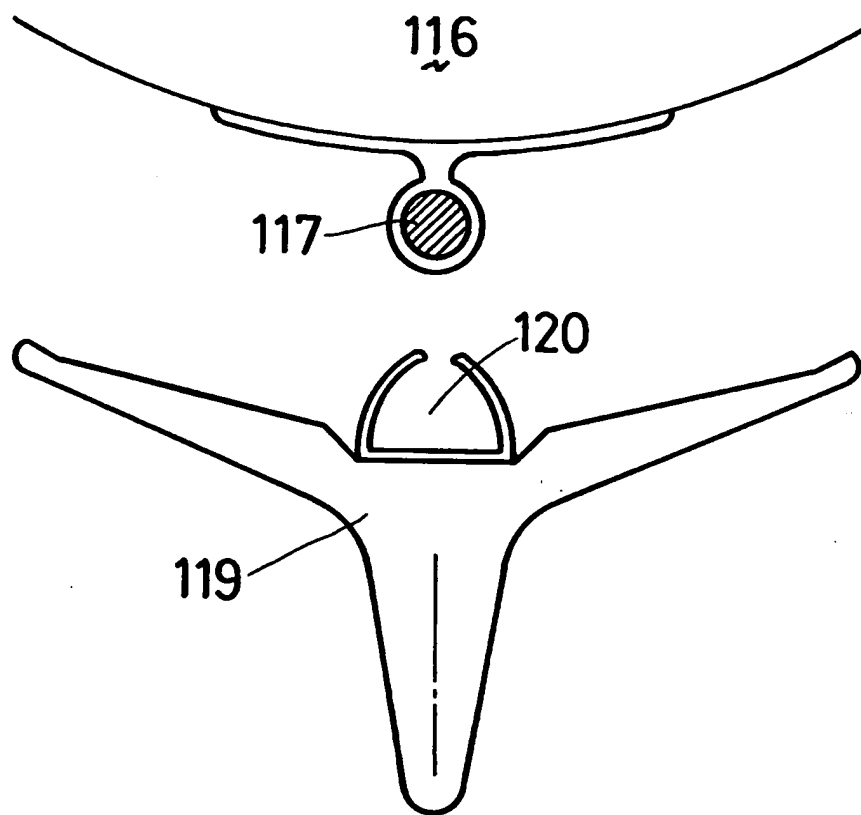


FIG. 7



## SPECIFICATION

## Inflatable catamaran

5 This invention relates to inflatable catamarans.

The attraction of inflatable sailing craft is that the inflatable parts can be deflated and packed away into a small space, for example the boot of a car.

10 However, at least so far as sailing craft are concerned it is difficult to provide an inflatable craft with sufficient strength firstly to make the performance acceptable and secondly to support the stresses resulting from the rigging, centreboard, rudder and human cargo.

15 According to the invention there is provided an inflatable catamaran having two elongate inflatable hulls, two pairs of saddles which ride on top of the hulls, a bridge comprising two rigid transverse members extending between respective of the saddles and two rigid longitudinal members extending between respective of the saddles, and longitudinal stiffening batons for each of the hulls to which the saddles are secured in use.

20 The hulls may be provided with pockets extending therealong into which the stiffening batons slidably fit when the hulls are deflated.

The stiffening batons may be permanently fixed to the external surfaces of the hulls. Separate stiffening batons may be provided for each saddle.

30 The stiffening batons may be glass fibre and each have a rectangular cross section.

A mast can be mounted on one of the transverse members and supported by stays attached to the longitudinal members and to a separate forward cross member. The bridge may be completed by a platform extending between the transverse longitudinal members and made of a suitable material such as nylon fabric.

40 The hulls may be each formed of two elongate inflatable separate compartments one on top of the other. The transverse cross section of each hull may be in the form of two substantially equal diameter circles joined together one on top of the other to form a figure eight with the waist of the

45 eight equal to about three quarters of the diameter of the circles.

Nose cones may be provided for each hull and formed of rigid material. This gives chosen shapes to the front of the hulls and has the functional purpose of cutting through the water, presenting a rigid edge with which to slice open a path through the water along which the more flexible inflatable hulls can slide. The nose cones also ensure minimum spray. With a generally rounded shape of

50 any inflatable hull, not provided with a rigid specifically shaped nose cone, spray can be a problem. A fin may be attached to the bottom of each hull. The fin may be shaped in the general form of a "T", the upright of the "T" extending vertically

60 downwards. The bottom of each hull may be provided with a rope connector and the fin formed and arranged to slide onto the rope connector into position in use.

65 A rudder system can be attached at the rear of

the hulls. A "yank and let go" principle for getting the rudder blades both down in position for sailing and up when coming ashore can be provided. The rudder consists of a tiller, and stock with two plates attached, into which the rudder blade swivels up and down. The rudder blade can be held in a down position by an elastic chord which also holds the rudder blade in an up position when yanked up by a chord attached to the blade and running up inside the tiller.

70 Catamarans according to the invention will now be described by way of example with reference to the accompanying illustrative drawings in which:-

*Figure 1* is an isometric view of one catamaran;

75 *Figure 2* shows various views of a nose cone for the catamaran;

*Figure 3* shows one saddle and parts of longitudinal stiffening batons for the catamaran;

80 *Figure 4* show a rudder assembly for the catamaran;

85 *Figure 5* show a cross-section view of an inflatable hull of the catamaran;

*Figure 6* show a side elevation of part of another catamaran;

90 *Figure 7* show a cross-section view of a fin and the bottom of a hull of a catamaran.

Referring to the drawing in Figures 1 to 5, the catamaran has two pairs of saddles 1 which ride on elongate inflatable hulls 16. A bridge consists of rigid transverse members 7 and rigid longitudinal members 2. A mast 3 is fixed to one of the members 7 and held in position by side stays 4 and a forward stay 5 anchored to a separate forward cross member 6.

100 Rectangular stiffening baton 8 extend along each side of the hulls 14 in pockets 17 provided therefor. The batons 8 fit into grooves formed at the bottom of each saddle 1 as shown clearly in Figure 3.

A rigid fin 9 is permanently fixed to the base of each hull 1. Rigid nose cones 10 are fitted to the forward end of each hull 1, the shape of which is shown clearly in Figure 2. A rudder tiller 11, rudder blade 12, and elastic chord 13 are provided and shown more fully in Figure 4 in a down position at

110 A and in up position at B.

Each hull 16 has a top inflatable compartment and a bottom inflatable compartment which are separated by a dividing strip (Figure 5). In cross-section it can be seen that each compartment is circular and when the compartments are joined together a figure eight form is provided in which the waist is about three-quarters of the diameter of the circular parts. Each hull is elongate, and at its forward end has a slight tapering which is ended off by bow nose cones 10 which fit as a cap on the bow of each hull. The nose cones (Figure 2), as the result of their shape, firstly act to split the water open ahead of the inflatable hulls 16, and secondly ensure the existence of a longer water line length, which is desirable in sailing craft, than could have been achieved without the bow nose cone. The inflatable hulls could be just as long, but without the cutting edge of the glass fibre or other rigid type bow nose cone would not be so fast in the water.

125 Alongside each side of each hull 16 the batons 8

are received and held in the sleeves 17 on the side of the hulls 16 and integrally with the hulls. The batons 16 are preferably rectangular in cross-section, with their long dimensions generally extending vertically. The batons 16 are made of fibreglass reinforced resin and provide rigidity both in the horizontal and vertical planes. Rigidity in the vertical plane is achieved due to the widest cross-section is vertical in use. In the horizontal plane, rigidity is achieved when the hull is inflated hard, thus gripping the fibreglass baton in the sleeves 17 preventing sliding of the batons in their sleeves. This makes each of the fibreglass batons structurally an integral part of the respective hulls thus resisting bending and twisting of the hulls in a horizontal plane.

The bottom edges of each saddle have U-shaped grooves to receive and hold onto the stiffening batons 8. There may be provision for additional mechanical locking in a convenient manner if desired. Once the batons are slid into the U-shaped edges of the saddle and the hull is inflated the rigidity of the inflated hull prevents the saddle from unhooking itself from the respective stiffening batons. The stiffening batons being held firmly in the sleeves and attached to the hull itself then hold the saddle firmly against the hull.

The saddles have sockets to receive the transverse and longitudinal members 7 and 2. With two such transverse members one fore and one aft and two longitudinal members one port and one starboard, a bridge for the hulls is provided (Figure 1). To complete the bridge, a platform in the form of a trampoline (not shown) is secured to the transverse and longitudinal members.

In one embodiment, the length of each hull is 4.5 meters, the circumference of each hull is 1.5 meters, and the outside dimensions of the bridge joining the hull are 1.9 meters wide and 1.8 meters long.

The hulls may contain polystyrene pellets to provide buoyancy in case of accidental deflation.

In Figure 6, the catamaran has individual stiffening batons 20 permanently fixed to the external surfaces of the hulls 16. Each baton 20 provides anchoring for the bottom limbs of the saddles 1. In use the saddles 1 are each fixed to two of the respective batons 20. It will be noted that as in Figure 1 each hull 16 has a nose cone 10 and a fin 9 attached thereto.

In Figure 7, the bottom of the hull 116 is provided with a rope connector 117. A fin 119 having a generally T-section has a top formation 120 which in use slides onto the rope connection 117 from the rear of the hull 116 and into position. Once the hull is fully inflated the fin 119 will not become inadvertently disconnected.

#### CLAIMS

1. An inflatable catamaran having two elongate inflatable hulls, two pairs of saddles which ride on top of the hulls, a bridge comprising two rigid transverse members extending between respective of the saddles and two rigid longitudinal members

extending between respective of the saddles, and longitudinal stiffening batons for each of the hulls to which the saddles are secured in use.

2. An inflatable catamaran according to Claim 1, in which the hulls are provided with pockets extending therealong into which the stiffening batons slidably fit when the hulls are deflated.

3. An inflatable catamaran according to Claim 1, in which the stiffening batons are permanently fixed to the external surfaces of the hulls.

4. An inflatable catamaran according to Claim 3, in which separate stiffening batons are provided for each saddle.

5. An inflatable catamaran according to any one of Claims 1 to 4, in which the hulls are each formed of two elongate inflatable separate compartments one on top of the other.

6. An inflatable catamaran according to any one of Claims 1 to 5, in which the transverse cross section of each hull is in the form of two substantially equal diameter circles joined together one on top of the other to form a figure eight with the waist of the eight equal to about three quarters of the diameter of the circles.

7. An inflatable catamaran according to any one of Claims 1 to 6, including nose cones for each hull formed of rigid material.

8. An inflatable catamaran according to any one of Claims 1 to 7, having a fin attached to the bottom of each hull.

9. An inflatable catamaran according to Claim 8, in which the fin is shaped in the general form of a "T", the upright of the "T" extending vertically downwards in use.

10. An inflatable catamaran according to Claim 8 or 9, in which the bottom of each hull is provided with a rope connector and the fin is formed and arranged to slide onto the rope connector into position for use.

11. A catamaran substantially as herein described with reference to any one or more of Figures 1 to 7 of the accompanying drawings.